

BECC-104: Mathematical Methods in Economics-II

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Marks	100
Assignment Type	Tutor Marked Assignment (TMA)

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Official IGNOU Assignment / Syllabus Question Paper

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9. Let the production function by $Q = AL^a K^b$. Find the elasticity of production with respect to labour (L).

10. Denote by **a**, **b** and **c** the column vectors

$$\mathbf{a} = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}, \mathbf{b} = \begin{pmatrix} -2 \\ 1 \\ -3 \end{pmatrix}, \mathbf{c} = \begin{pmatrix} -2 \\ -1 \\ 1 \end{pmatrix}$$

Calculate

$2\mathbf{a} - 5\mathbf{b}$, $2\mathbf{a} - 5\mathbf{b} + \mathbf{c}$, $\mathbf{a} \cdot \mathbf{b}$,

Solved Answers

Answer 1: Consider the following two matrices $A = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 & 2 & 2 & 4 \\ -1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 & 1 & 1 & 1 & 1 & 1 & 1 \\ -1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{bmatrix}$ (i) Find the rank of 'A' and 'B' (ii) Show that $(AB)^{-1} = B^{-1}A^{-1}$ (iii) Show that $(A^{-1})^{-1} = A$ (iv) Show that $(B^{-1})^{-1} = B$ (ignoucollage.in)

About 500 words

The study and understanding of **consider the following two matrices $a = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 \end{bmatrix}$** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **consider the following two matrices $a = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 \end{bmatrix}$** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **consider the following two matrices $a = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 \end{bmatrix}$** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **consider the following two matrices $a = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 \end{bmatrix}$** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **consider the following two matrices $a = \begin{bmatrix} 1 & 1 & 2 & 1 & 1 \end{bmatrix}$** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 2: An individual consumer consumes two commodities X_1 & X_2 . The utility function is $U = 2X_1 + X_2$. The price of commodity one is $P_1 = \text{Rs.}3.00$, the price of commodity two is $P_2 = \text{Rs.}4.00$, the individual's income per period is $\text{Rs.}108$. Determine the utility maximizing level of X_1 & X_2 and derive the demand curves for the two commodities. (ignoucollage.in)

About 500 words

The study and understanding of **an individual consumer consumes two commodities x1 & x2. the utility function** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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